

A new species of *Siamosquilla* from Indonesia (Crustacea: Stomatopoda: Protosquillidae)

Mark V. Erdmann and Raymond B. Manning

(MVE) Department of Integrative Biology, University of California at Berkeley, Berkeley, California 94720, U.S.A.; (RBM) Department of Invertebrate Zoology, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560-0163, U.S.A.

Abstract.—*Siamosquilla sexava*, the second species of the genus, is described from Indonesia. It can be distinguished from the type species, *S. hyllebergi* Naiyanetr, from Thailand, by the shorter median rostral spine, the larger ocular scales, the much broader telson, and differences in ornamentation of the fused sixth abdominal somite and telson.

Among the stomatopods collected by one of us (M. V. E.) during a six-year field study in Indonesia was a minute protosquillid which proved to be the second known species of *Siamosquilla* Naiyanetr, 1989. It is described below.

Abbreviations used in the account include: LON, Lembaga Oseanologi Nasional (National Institute of Oceanography), Jakarta, Indonesia; TL, total length, measured on the midline; USNM, National Museum of Natural History, Smithsonian Institution, Washington, D.C., U.S.A.

The holotype and some paratypes have been deposited in the USNM; two paratypes are in the LON.

Family Protosquillidae Manning, 1980

Siamosquilla Naiyanetr, 1989

Siamosquilla sexava, new species

Fig. 1

Material examined.—Indonesia: Moromaho, Tukang Besi: 1 ♀, TL 18 mm (holotype, USNM 260927), 2 ♀ ♀, TL 16–17 mm (paratypes, LON).—Gili Meno, Lombok: 1 ♂, TL 17 mm, 1 ♀, TL 18 mm (paratypes, USNM 260928).—Melanguane, Sangihe-Talaud: 1 ♀, TL 17 mm (paratype, USNM 260929).—Taupun, Togian Islands: 1 ♂, TL 13 mm (paratype, USNM 260930).

Diagnosis.—Size very small, TL less

than 20 mm in adults. Cornea broadened, set obliquely on stalk. Ocular scales well developed, produced into triangular lobes laterally, extending nearly to lateral rostral spine in adults.

Rostral plate sharply trispinous, median spine distinctly upturned distally, extending to base of corneas; ventral projection of rostral plate large, obtusely rounded ventrally. Lateral rostral spines extremely long, slender and recurved, length nearly two-thirds that of median spine. Basal part of rostral plate very thin. Anterior margins of lateral plates of carapace concave, anterolateral angles strongly produced to a sharp point, extending anteriorly to base of rostral plate.

Mandibular palp absent. Five epipods present.

Raptorial claw with inflated part of outer margin of dactylus notched. Propodus with single movable spine proximally on inner margin.

Anterior 4 abdominal somites smooth, unarmed, not carinate dorsally. Fifth abdominal somite smooth medially, with single low longitudinal carina laterally above lateral margin, separated from margin by a groove, armed with posterolateral spine. Sixth abdominal somite entirely fused with telson in adults, dorsal surface rough, with shallow, irregularly curved grooves, lacking carinae entirely.

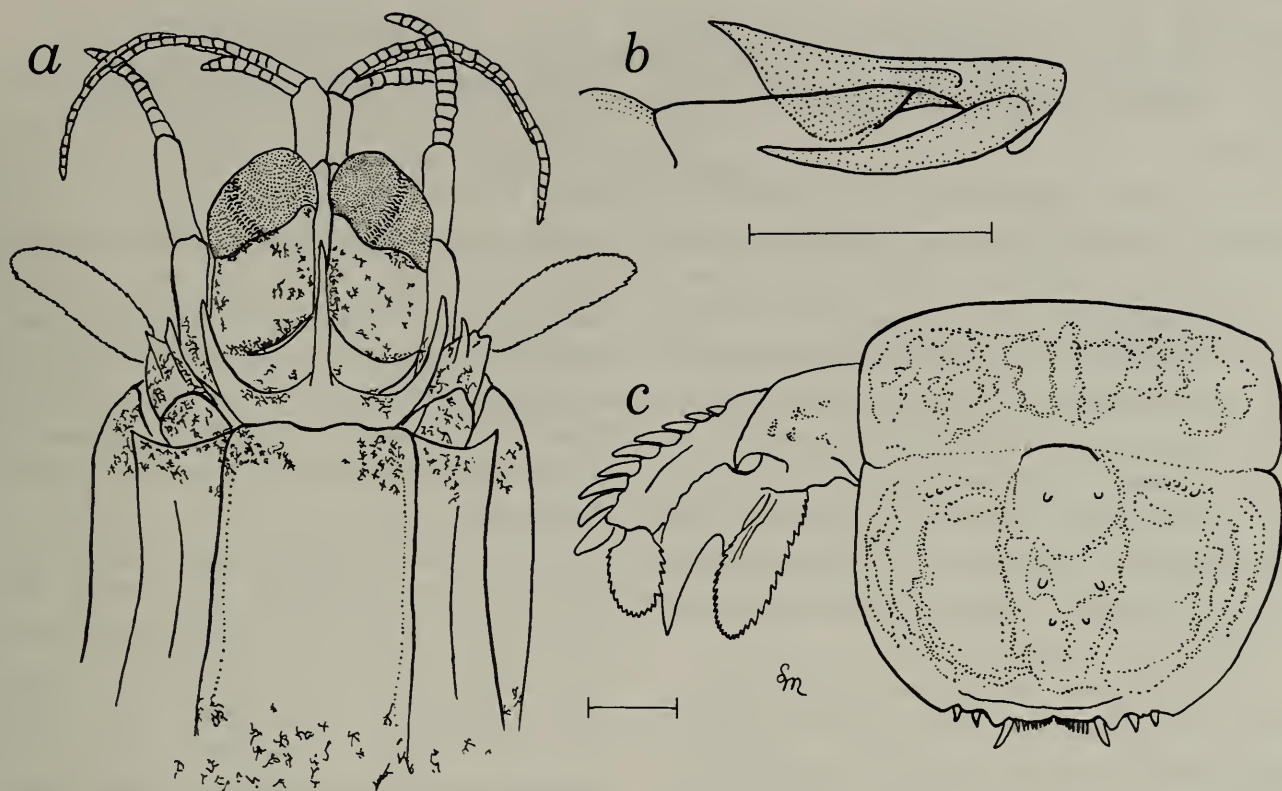


Fig. 1. *Siamosquilla sexava*, new species, female holotype, TL 18 mm. *a*, Anterior part of body, dorsal view (apex of left ocular scale damaged); *b*, Rostral plate, lateral view; *c*, Fused sixth abdominal somite and telson and left uropod, dorsal view. Scales = 1 mm.

Telson much wider than long, dorsal surface rough, slightly inflated, with 3 very indistinct bosses. Median boss outlined by a shallow groove in dorsal surface of telson; boss rounded anteriorly, converging posteriorly; outline of submedian bosses even less distinct, extending posteriorly almost to posterior margin of telson. Median fissure completely fused, no longer visible. Three pairs of marginal teeth, submedians with moveable apices arising submarginally under submedian marginal projections. Intermediate teeth very low and rounded, almost indistinguishable in larger specimens. Lateral teeth more distinctly produced, with rounded apices. Separation between three pairs of marginal telson teeth shallow and rounded. Submedian teeth with 12–14 denticles on either side of midline, increasing noticeably in length laterally, intermediate teeth each with 2 fixed mesial denticles, laterals each with 1 denticle. Lateral margins of telson straight, rounded distally.

Uropods stout, proximal segment of ex-

opod with 9 short movable spines laterally, distalmost extending beyond midlength of distal segment, with fixed distal spine ventrally. Inner margin of uropodal exopod setose; uropodal endopod with normal complement of setae. Inner spine of basal prolongation of uropod much shorter than outer.

Size.—Males ($n = 2$), TL 13–17 mm. Females ($n = 5$), TL 13–18 mm.

Remarks.—This small species has a very distinctive rostral plate, with long, recurved lateral spines, and a telson that is most remarkable for its lack of distinguishing features; the sixth abdominal somite is fused to the telson, which has almost indiscernible bosses and a fused median fissure. *Siamosquilla sexava* differs from *S. hyllebergi* in numerous features: the median rostral spine is shorter, extending to, rather than beyond, the cornea and the lateral rostral spines are longer; the ocular scales are broader; in adults the anterolateral angles of the carapace are sharper and more pro-

nounced; the dorsal sculpture of the fused sixth abdominal somite and telson is much more elaborate; and the telson is much broader.

The fixed projections on the posterior margin of the telson are much more pronounced in *S. hyllebergi* than in *S. sexava*, and the submedian projections in the former species probably obscure the submarginal, movable submedian teeth of the telson, which are clearly visible in *S. sexava*.

In *S. sexava*, the size of the ocular scales increases allometrically, and in very small specimens of *S. sexava* the scales resemble those of larger *S. hyllebergii*; they increase in width with increasing TL.

Distribution.—Known only from eastern Indonesia, where it is relatively widespread. Recorded from five regions: Lombok, Sangehe-Talaud, Togian Islands, and Tukang Besi Archipelago.

Etymology.—The species name is from the word *sexava*, which means “mantis” in Bahasa Talaud, the local language in one of the collection localities (Melanguane, Sangehe-Talaud). The local fishermen, school teachers and children there were most helpful in assisting with collecting, and were fully cognizant of the differences between stomatopods and other decapod shrimp, comparing stomatopods to the “sexava” without any solicitation. Their assistance is most appreciated.

Acknowledgements

We thank the Indonesian Institute of Sciences for sponsoring Erdmann’s project, and Kalam Sebayang and Ibu Dewi Soenarijadi for their assistance with research visas. Dr. Mohammad Kasim Moosa was the Indonesian sponsor of this research, and Erdmann gratefully acknowledges his mentorship on stomatopod morphology and his continual support of this project. We also thank Dr. Sukarno, Dr. Suharsono, and Dr. Anugerah Nontji of the Indonesian Institute of Sciences.

Funding for Erdmann’s research was provided by grants from the UC Pacific Rim Research Program, the NSF International DDIG (#9503060 and #9704616) Program and a visiting scientist appointment from the Smithsonian Institution. Lilly King Manning prepared the figure. This is contribution no. 467 from the Smithsonian Marine Station at Fort Pierce, Florida; the support of that program for Manning’s studies of stomatopod systematics is gratefully acknowledged. We gratefully acknowledge the reviews of Shane Ahyong, David K. Camp, and Roy K. Kropp as well as the cooperation of Rafael Lemaitre.

Literature Cited

- Naiyanetr, P. 1989. *Siamosquilla hyllebergi*, a new genus and new species of stomatopod from Thailand. In E. A. Ferrero, ed., *Biology of stomatopods. Selected symposia and monographs*, U.Z.I., 3:281–284. Muchi, Modena.